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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,054	09/28/2001	Fernando A. Mujica	TI-32182	4360
7590	12/28/2004		EXAMINER	
Dennis Moore Texas Instruments Incorporated P.O. Box 655474, M/S 3999 Dallas, TX 75265			JOSEPH, JAISON	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/966,054	MUJICA, FERNANDO A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jaison Joseph	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 September 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 11-17 is/are allowed.  
 6) Claim(s) 1,3,4 and 18-20 is/are rejected.  
 7) Claim(s) 1-10 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Objections***

Claim 1 – 10 are objected to because of the following informalities:

In claim 1, lines 8 and 10 recited phrase “ a current peak average” and on line 9 the phrase “ current gain setting” would be more easily understood if written as “present peak average” and “present gain setting” respectively. The term “current peak average” denotes “peak average at this instant of time” and the term “current gain setting” indicates the present gain setting. The phrase “current” is puzzling because it could mean “present” or “flow of electricity”.

Similar scenarios exist in claim 4, line 2; in claim 5 line1, in claim 9, line 2, and in claim 10, line 1.

Appropriate correction is required.

Claim 6 and 8 recites the limitation "increasing said maximum gain setting" in line 3 and line 3 respectively. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 2, 3 and 7 are objected because of these claims depend on an objected claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18 – 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson et al (US Patent 6,058,162).

Regarding claim 18, Nelson et al teach an apparatus for selecting a gain distribution in a subscriber line system having an analog front end 113 having plurality of serially coupled gain stages, an analog-to-digital converter 115 adapted to receive a data signal from said analog front end, and a processor coupled to said analog-to-digital converter and adapted to select a gain setting of each of the gain stages in a predetermined order (see figure 6).

Regarding claim 19, which inherits the limitations of claim 18, Nelson et al teach that the gain stages comprise programmable gain amplifiers (see column 10, lines 30 – 31).

Regarding claim 20, which inherits the limitations of claim 18, Nelson et al further teach that processor comprises a digital signal processor.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halim et al (US Patent 5,036,527).

Regarding claim 1, Halim et al teach an iterative automatic gain control for an analog front end of a modem having an incoming signal is amplified by one of a plurality of predetermines gain levels (selecting the order for gain stages and initializing the gain stages) to provide a received signal, the level of the received signal is detected and information is provided to the signal adjustment controller as to whether the received signal level falls below or exceeds a first and second reference level. In response to this information, the signal adjustment controller provides control signal to the amplifier to maintain the received signal level between the reference levels (see column 4, lines 45 – 55). Also the step of amplifying the incoming signal comprises changing the amplification of the incoming signal to a next higher one of a plurality of predetermined gain levels in response to the control signal being the first stage (see column 6, lines 11 – 16) and changing the amplification of the incoming signal to a next lower one of the plurality of predetermined gain levels in response to the control signal being the third control state (see column 6, lines 18 – 22). However Halim et al failed to teach to use the gain controller in a digital subscriber line. Since Halim et al's automatic gain control is used in the modem, it would be obvious to an ordinary skilled in the art at the time of the invention to use the Halim et al's teaching for the gain control in a digital subscriber line system to benefit improved performance because DSL system uses modem in the system.

Regarding claim 3, which inherits the limitations of claim 1, Halim et al teach resetting the gain counter (see column 9, line 50 – 51).

Regarding claim 4, which inherits the limitations of claim 1, Halim et al teach that it takes seven-clock period to set the new gain settings (see column 11 lines 11 – 17).

### ***Allowable Subject Matter***

Claims 2 and 5 – 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the objections stated in the above paragraph.

Claims 11 – 17 are allowable over the prior art of record.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison Joseph whose telephone number is (571) 272-6041. The examiner can normally be reached on M-F 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jaison Joseph  
12/13/2004



STEPHEN CHIN  
SUPERVISORY PATENT EXAMINEE  
TECHNOLOGY CENTER 2600